REMARKS

II. Status of the Claims

Claims 1-38 are pending. Claims 1-3 are allowed. Applicant is gratified that original claims 1-3 are allowed and patentable over the art. Claims 4-38 stand rejected.

Claims 20 and 26 are cancelled above without prejudice to Applicant's right to pursue the subject matter of those claims in continuation, reissue, reexamination or other applications related or unrelated to this application.

Claims 29-32 have been found allowable if amended to overcome a rejection under § 251. Applicants believe the requirements of § 251 were established with the Examiner to be met by the pending claims.

Claims 13, 16, 20, 23, 26, 28 and 37 are objected to as depending upon a rejected base claim but are otherwise found to be allowable if rewritten in independent form and rewritten to overcome the rejection under § 251. Applicants believe the respective base claims have been shown to be patentable over the art of record, such that claims 13, 16, 20, 23, 26, 28 and 37 are likewise patentable. Also, as noted above, Applicants believe the requirements of § 251 have been shown to be met by the claims.

Applicant respectfully requests reconsideration and allowance of the claims.

III. Application is in Condition for Allowance

As stated above, the amendments presented above are believed to be consistent with the points developed during the interview and are believed to put the application into condition for allowance. In particular, the claims as originally presented and as now presented are patentable over the art of record. Kountz does not teach or suggest any particular time constant or response time for its system. This aspect of the system is not discussed in Kountz. Further, Kountz does not teach or suggest any particular cycle time for its valve 21. For either of these reasons, and certainly considering both together, Kountz is clearly seen to fall well short of teaching or suggesting the air conditioning or refrigeration systems or compressors or methods of the present claims, comprising a valve operative to cycle with a cycling time shorter than the response time of the system to control fluid flow to the compressor to modulate compressor capacity. Likewise, for

either or both of those reasons Kountz fails to teach or suggest the air conditioning or refrigeration systems or compressors or methods of the present claims, comprising a valve operative to cycle between a fully open position and a fully closed position to control fluid flow to the compressor to modulate compressor capacity.

Each of the independent claims is amended above for better clarity. Specifically, each of the claims now expressly recites that the valve is operative to cycle with a cycling time shorter than the response time of the system to control fluid flow to the compressor to modulate compressor capacity and/or is operative to cycle between a fully open position and a fully closed position to control fluid flow to the compressor to modulate compressor capacity. The stroke control valve 21 of Kountz is in line 22 and therefore is not operative to control fluid flow to the compressor, as that phrase is used in the present application. See refrigerant supply line (unnumbered) from evaporator 15 to compressor 10 in Fig. 1 of Kountz.

IV. Conclusion

Applicant respectfully requests allowance of the claims pending in the application and declaration of interference with US patent 6,206,652.

Respectfully submitted,
Lifson, A.

Peter D. McDermott
Attorney for Applicant
Reg. No. 29,411
Customer No. 22910

Banner & Witcoff, Ltd.
28 State Street, 28th Floor
Boston, MA 02109
Telephone: (617) 227-7111
Facsimile: (617) 227-4399

CERTIFICATE OF FACSIMILE

I hereby certify that this correspondence is being faxed to Attention: Examiner Marc E. Norman, Assistant Commissioner for Patents, Box REISSUE, Washington, D.C. 20231 fax # 703-872-9302 on 11-Sep-02.

Rachelle Chery 11-Sep-02
Rachelle Chery *Date*

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	**Lifson, A.**	**Group Art Unit:**	**3744**
Serial No.:	**09/921,334**	**Examiner:**	**Norman, Marc E.**
Filed:	**August 03, 2001**		
For:	**PULSED FLOW FOR CAPACITY CONTROL**		
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Granted:	**April 11, 2000**		

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VERSION SHOWING CHANGES MADE

The following changes are made to the indicated claims in the paper to which this Appendix is appended. Underlined text is added. Text with strike-through is deleted.

In the Claims

Claim 4. (Amended) An air conditioning or refrigeration system comprising:

a compressor having a refrigeration fluid suction port and a refrigeration fluid discharge port; and

a valve, in fluid communication with the compressor, operative to cycle with a cycling time shorter than the response time of the system to control fluid flow to the compressor to modulate compressor capacity.

Claim 9. (Amended) An air conditioning or refrigeration system comprising:

a compressor having a refrigeration fluid suction port and a refrigeration fluid discharge port, being operative to compress refrigeration fluid received via the suction port and discharged via the discharge port;

a refrigerant flow line operative to carry refrigeration fluid and in fluid communication with the compressor;

a capacity controller operative to generate a control signal corresponding to desired capacity modulation; and

a valve in the refrigerant flow line, which is operatively connected to the controller to receive capacity control signals from the controller and operative in response to capacity control signals received from the controller to cycle with a cycling time shorter than the response time of the system to control fluid flow to the compressor to modulate compressor capacity.

Claim 14. (Amended) An air conditioning or refrigeration system comprising:

a compressor having a refrigeration fluid suction port and a refrigeration fluid discharge port, being operative to compress refrigeration fluid received via the suction port and discharged via the discharge port;

a refrigerant flow line operative to carry refrigeration fluid and in fluid communication with the compressor;

a capacity controller operative to generate a control signal corresponding to desired capacity modulation; and

a solenoid valve in the refrigerant flow line which is operatively connected to the controller to receive capacity control signals from the controller and operative in response to capacity control signals received from the controller to cycle between a fully open position and a fully closed position to control fluid flow to the compressor to modulate compressor capacity.

Claim 17. (Amended) A capacity modulated compressor for an air conditioning or refrigeration system having a refrigerant flow line, comprising:

a compressor housing comprising a compression chamber, at least one refrigerant injection port operative to pass refrigerant to the compression chamber, and at least one refrigerant discharge port operative to pass compressed refrigerant from the compression chamber;

a capacity controller operative to generate a control signal corresponding to desired capacity modulation; and

a valve operatively connected to the controller to receive capacity control signals from the controller and operative in response to capacity control signals received from the controller to cycle with a cycling time shorter than the response time of the system to control fluid flow to the compressor to modulate compressor capacity.

Claim 24. (Amended) A capacity modulated compressor for an air conditioning or refrigeration system having a refrigerant flow line, comprising:

a compressor housing comprising a compression chamber, at least one refrigerant injection port operative to pass refrigerant to the compression chamber, and at least one refrigerant discharge port operative to pass compressed refrigerant from the compression chamber;

a capacity controller operative to generate a control signal corresponding to desired capacity modulation; and

a solenoid valve operatively connected to the controller to receive capacity control signals from the controller and operative in response to capacity control signals received from the controller to cycle between a fully open position and a fully closed position to control fluid flow to the compressor to modulate compressor capacity.

Claim 29. (Amended) A capacity modulated compressor comprising:

a compressor having a suction inlet for supplying suction gas to the compressor;

a valve provided in the suction gas flow path to the compressor, the valve being operable between open and closed positions to cyclically allow and prevent flow of suction gas into the compressor;

a controller for actuating the valve between the open and closed positions, the controller being operative to cycle the valve such that its cycle time is shorter

than the response time of the system to control fluid flow to the compressor to modulate compressor capacity.

Claim 33. (Amended) A method of modulating the capacity of a compressor in an air conditioning or refrigeration system, comprising cycling a valve, in fluid communication with the compressor, using a cycle time shorter than the response time of the system to control fluid flow to the compressor to modulate compressor capacity.

Claim 35. (Amended) A method of modulating the capacity of a compressor in a closed refrigerant circulating system, said compressor comprising a compression chamber having a port connected to a refrigerant line of the system through which refrigerant is supplied to the compression chamber, comprising:

rapidly cycling a solenoid valve disposed in the refrigerant line upstream of said port between its fully open position and its fully closed position to control fluid flow to the compressor to modulate compressor capacity.